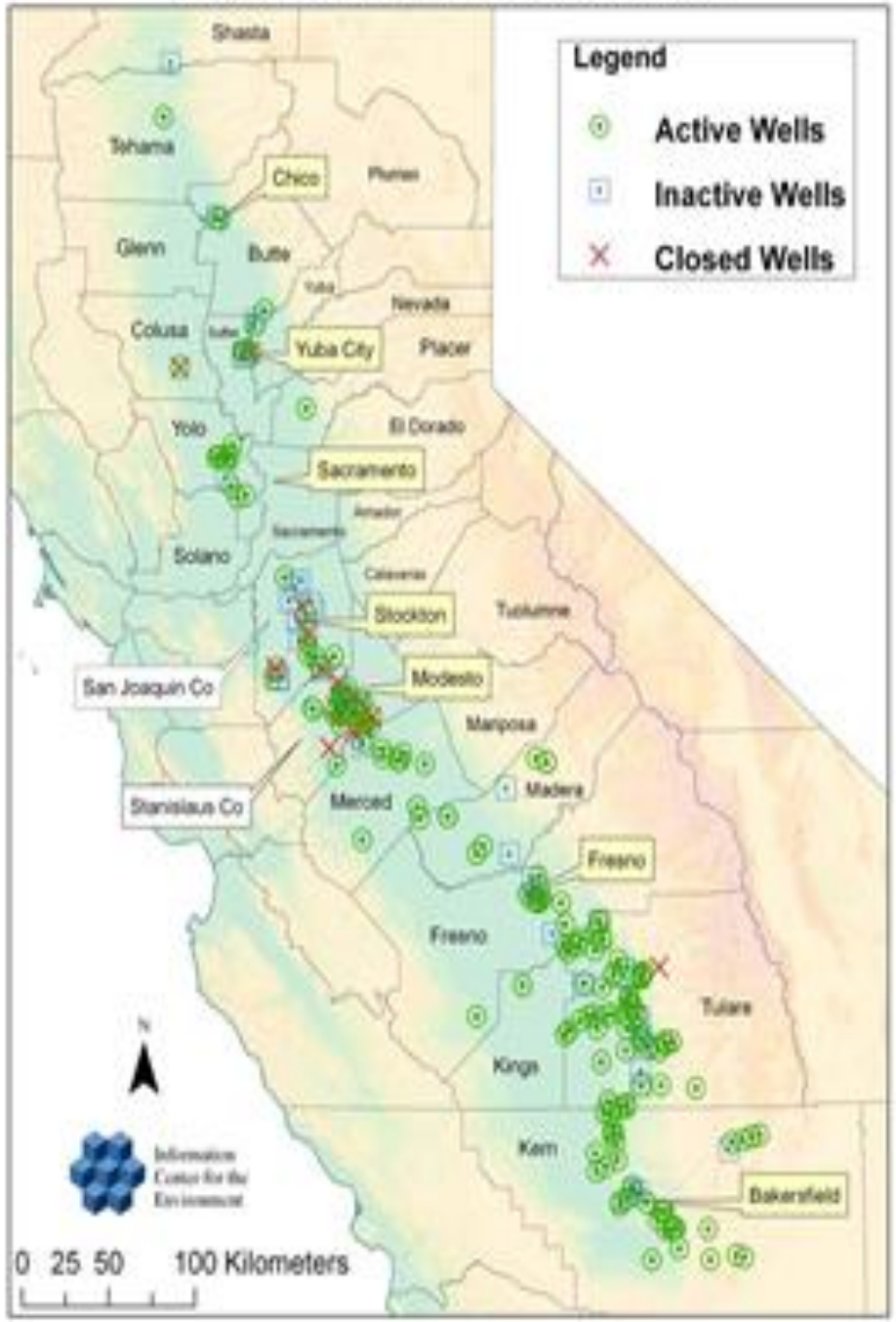
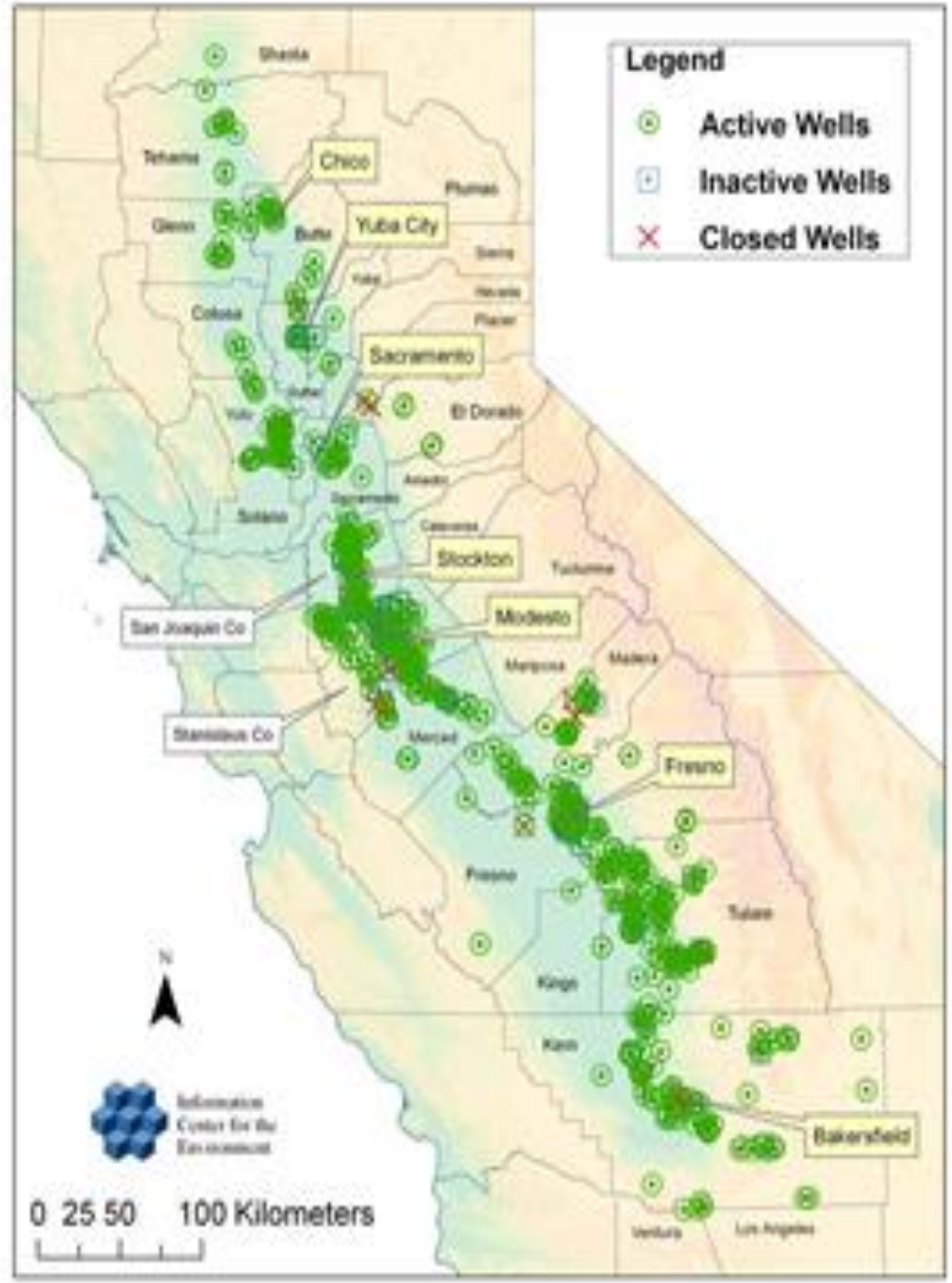
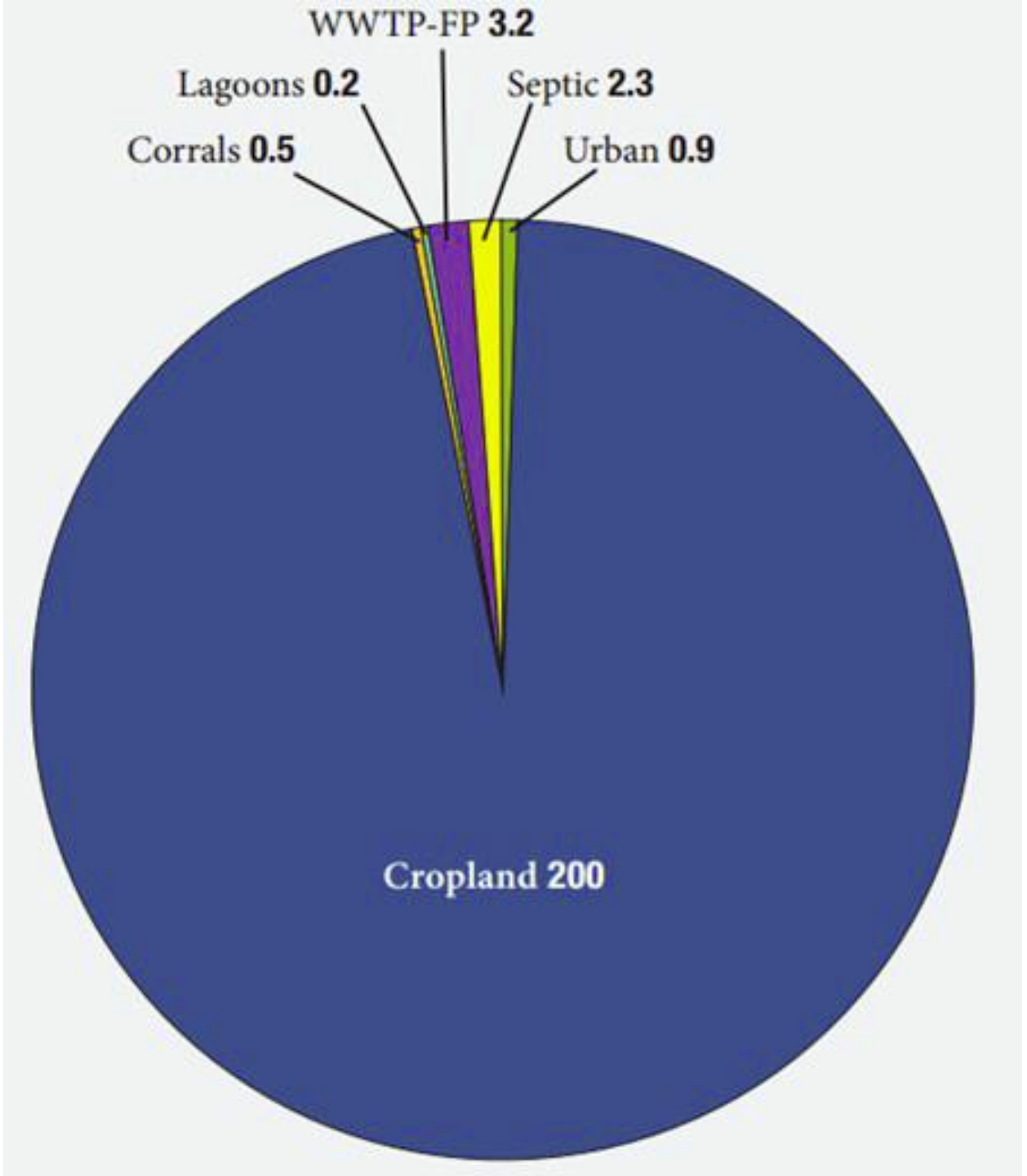

Environmental Justice
Perspectives on the Irrigated
Lands Program

Wells with Nitrates Exceeding MCL



Wells with Nitrates at 50% of MCL





From: Addressing Nitrate in California's Drinking Water, UC Davis, 2012

Pollution of drinking water supplies of communities, schools, family homes, local businesses

- 92 Drinking water systems serving over 1 million residents in San Joaquin Valley (2005-08)

- ~60,000 private wells used by 169,000 residents in California (2010)

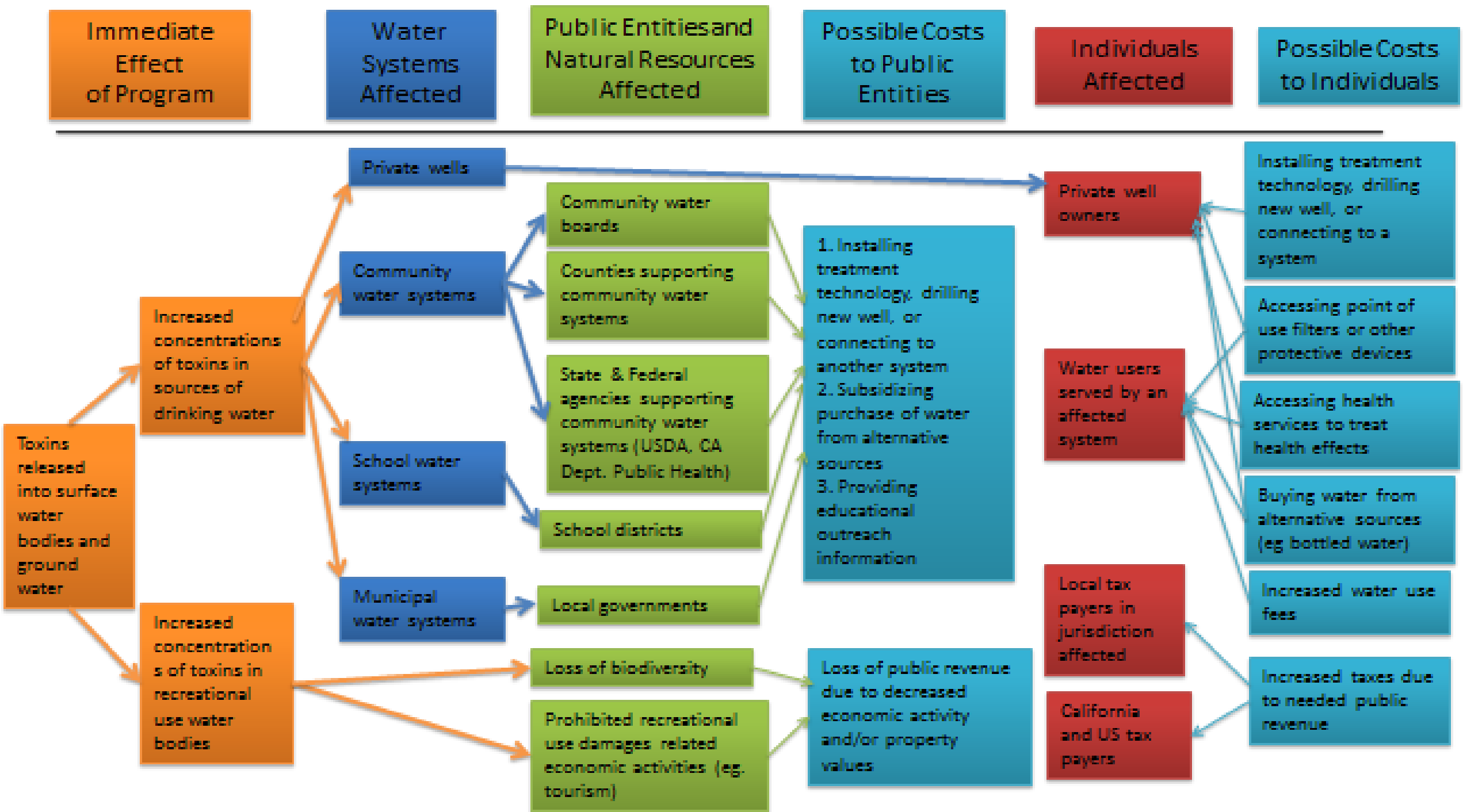
Health Impacts

Acute:

- Methemoglobinemia (children < 6 months)
- Severe gastroenteritis

Chronic:

- Cancer (thyroid, stomach, colon, others)
- Impaired *in utero* growth, pre-term birth
- Birth defects
- Pancreatitis
- Nervous system defects


Immediate Effect of Program
Water Systems Affected
Public Entities and Natural Resources Affected
Possible Costs to Public Entities
Individuals Affected
Possible Costs to Individuals
Toxins released into surface water bodies and ground water
Increased concentrations of toxins in sources of drinking water
Increased concentrations of toxins in recreational use water bodies
Private wells
Community water systems
School water systems
Municipal water systems
Community water boards
Counties supporting community water systems
State & Federal agencies supporting community water systems (USDA, CA Dept. Public Health)
School districts
Local governments
Loss of biodiversity
Prohibited recreational use damages related economic activities (eg. tourism)
1. Installing treatment technology, drilling new well, or connecting to another system
2. Subsidizing purchase of water from alternative sources
3. Providing educational outreach information
Loss of public revenue due to decreased economic activity and/or property values
Private well owners
Water users served by an affected system
Local tax payers in jurisdiction affected
California and US tax payers
Installing treatment technology, drilling new well, or connecting to a system
Accessing point of use filters or other protective devices
Accessing health services to treat health effects
Buying water from alternative sources (eg bottled water)
Increased water use fees
Increased taxes due to needed public revenue

Under the current and proposed WDR, our most vulnerable communities are not protected and pay the costs for ongoing contamination

- No replacement water orders or other enforcement actions requiring clean-up or abatement in the Central Valley
  - Current order has no ability to take enforcement action without adequate data
- No requirement for agriculture to provide replacement water or pay for costs of on-going pollution
  - This should be included in GQMP requirements
- No enforceable mechanism to ensure on-going pollution does not continue.
  - No regulatory standard or action level linked to level of nitrogen loading or water quality
- No incentive for ag to participate in broader nitrogen solutions


Voluntary practices alone are not sufficient to protect drinking water.
State & Regional Water Boards must make tough policy decisions. We need to implement solutions in regulatory programs.

Modified WDRs remain legally inadequate

- Authorize pollution and nuisance in violation of Porter-Cologne Water Quality Control Act

- Do not comply with state Anti-Degradation Policy

- Disparately and negatively impact low-income communities of color

Porter-Cologne Violations

- Explicit authorization of pollution and nuisance for 10 years or more
- No grounds for determining amount of discharge that is consistent with attaining water quality objectives (WQOs) and preventing nuisance and pollution
- No enforceable standards or limits
- Thus no mechanism for ensuring that management practices, or the regulatory scheme in general, will lead to achievement of WQOs or prevention of pollution and nuisance

Porter-Cologne Violations

- "[I]mplementing management practices is not a substitute for actual compliance with water quality standards…. Adherence to management practices does not ensure that standards are being met."

Monterey Coastkeeper, et al. v. California State Water Resources Control Board (2015), No. 34-2012-80001324, at *34

Failure to Comply with Antidegradation Policy

No estimate of baseline nitrate concentration and thus no means to determine changes in water quality authorized by the WDRs

Inadequate maximum benefit analysis

Will absolutely impact current and future beneficial uses

Failure to establish or enforce BPTC

Authorization of pollution and nuisance

Inadequate Maximum Benefit Analysis

- "Factors to be considered include ... economic and social costs, tangible and intangible, of the proposed discharge… With reference to economic costs, both costs to the discharger and the affected public must be considered."

Asociacion de Gente Unida por el Agua v. Central Valley Regional Water Quality Control Bd. (2012), 210 Cal. App. 4th 1255, 1279.

Elements That Must be Estimated in a Maximum Benefit Analysis

- Maximum benefit analysis must include costs and benefits to communities suffering the impacts of nitrate contamination
  - Health Impacts
  - Economic costs
    - Obtainment of potable water
    - Increased health related expenses
    - Devaluation of property
    - Limitations on community development
  - Environmental costs

Disparate Impact

- No Californians, on the basis of race, national origin, ethnic group, or other protected classes, can be denied equal access to the benefits of a state program, or be disproportionately burdened by a state program.

  Gov. Code § 11135

- All Californians have the right to hold *and enjoy* housing without discrimination based on race, color, or national origin.

  Fair Housing and Employment Act, Gov. Code § 12900 *et seq*.

Disparate Impact

- Low-income Latino communities in the SJV are disproportionately impacted by nitrate contamination of groundwater from agricultural waste
- Thus Latinos are more likely to have higher levels of nitrates in their drinking water than the population at large
- Authorization of continued pollution and degradation will maintain the disparate, negative impact of discharges on Latinos

Balazs, C., Morello-Frosch, R., Hubbard, A., & Ray, I. (2011). Social Disparities in Nitrate-Contaminated Drinking Water in California's San Joaquin Valley. Environmental Health Perspectives, 119(9), 1272-1278.

Necessary Components of an Effective Regulatory Program

- Makes real farm-level changes that will improve water quality
- Sets clear and enforceable standards
- Provides the Board and the public with sufficient information to determine that the program is effective and enforceable;
- Mitigates impacts of continued degradation

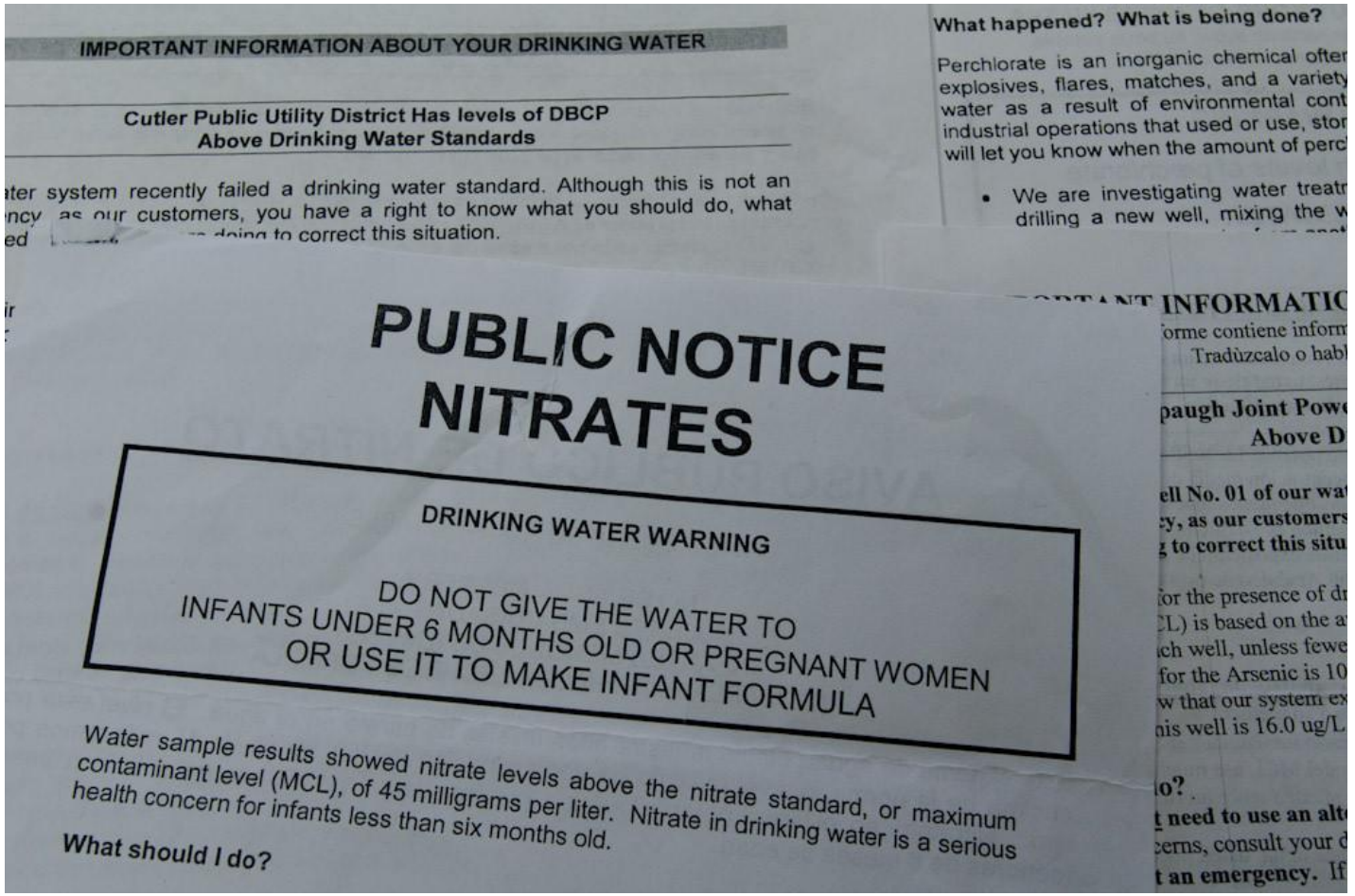
Expert Panel Provides Sound Recommendations For

- Ag best practices
- Source Control measures

But expertise in water quality and regulatory needs is limited

Water Board Provides Expertise In

- Water Quality
- Regulatory oversight



Field-Level Reporting

- Information is already collected by the individual farmers
- Provides data at sufficient detail to permit review of best practices
- Creates the potential for enforcement based on actual water quality impacts
- Allows for analysis by experts and the public to better understand links between farm practices and water quality

Nutrient Ratios

- Expert Panel and Nutrient Tracking Task Force agree that this is a good idea
- Allowing farmers to report yield rather than N (Removed) until information is developed is in agreement with recent coalition recommendations
- Draft order improves on recommendations by using standard deviation to target outliers

A/R is not a good proxy for achievement of water quality objectives

Nutrient Loading

- $N^{applied} - N^{removed}$ (A-R) required in order, but unclear how it will be used
- Permit should establish a target Nitrogen loading standard, since this is linked to impacts on water quality
- Suggest revising formula
  - $(N^{applied} - N^{irrigation}) - N^{removed}$ = Potential loading to groundwater
  - Provides credit for utilizing N in groundwater
  - Reductions in this value reduce impacts to water quality

On-Farm Domestic Well Testing

Support

- Necessary action to protect public health
- Adds to limited information about shallow groundwater quality
- Allows targeted outreach to potentially impacted domestic well users

Suggested improvements

- Repeat testing every 2 years for wells at 50-80% of N drinking water standard, every 5 years for less than 50%
- Include monitoring of key pesticides

Groundwater Quality Management Plans

- Plans are supposed to provide specific goals and actions for achieving water quality objectives
- Add specific requirements:
  - Identification of domestic and public supply wells and a plan for testing
  - Provision of replacement water to impacted residents
  - Increased monitoring to identify water quality trends
  - Required reduction in overall N loading in management area

Replacement Water

- Needs to be required for areas impacted by nitrate contamination now and in future
- Should provide for interim (bottled water) as well as long-term solutions (interconnection, pay for ongoing treatment)

Provision of well location data

- Data is needed for several processes already in place, including CV-SALTS; release of this information should be expedited

Thank you